

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method of fabricating a pore array, comprising:
directing light onto a sheet of material comprising a polymer film in a pore array fabrication position wherein the light having an intensity and a wavelength sufficient to ~~form~~ simultaneously form a plurality of pores within the sheet;
forming a pore array within the sheet wherein the plurality of pores formed within the sheet at the locations where the light contacts a surface of the sheet and further wherein the light passes through the plurality of pores;
detecting the light passing through the plurality of pores; and
analyzing the detected light to determine if the plurality of pores meet a pore size and pore shape criterion ~~which is a function of one or more of the group consisting of pore size, pore density, pore shape and the number of pores formed.~~
2. (Currently Amended) The method of claim 1, further comprising modifying the fabricating based on ~~the~~ whether the pore size and pore shape criterion is met.
3. (Original) The method of claim 1, wherein the source of the light is a LASER.
4. (Original) The method of claim 1, further comprising:
providing a plurality of sheets and repeating the directing, forming, detecting, and analyzing for each sheet.
5. (Currently Amended) The method of claim 1, wherein ~~the~~ each of the plurality of pores formed pores have a diameter of less than about 100 microns.
6. (Original) The method of claim 3, wherein the LASER is selected from the group consisting of a UV LASER and a visible light LASER.
7. (Original) The method of claim 1, wherein the detecting comprises using a detector selected from the group consisting of a photodiode, a pyroelectric detector and a downconversion/photodiode, and wherein the analyzing comprises using a system comprising an electronic circuit.

8. (Original) The method of claim 2, wherein the modifying comprises changing one or more of the intensity, the pulse duration, and the pulse frequency of the directed light.

9. (Original) The method of claim 8, wherein the modifying comprises reducing the intensity wherein the fabrication method is essentially halted.

10. (Original) The method of claim 2, wherein the modifying comprises moving a new sheet into the drilling position.

11. (Canceled)

12. (Original) The method of claim 6, wherein the UV LASER is selected from the group consisting of excimer LASERs, frequency multiplied YAG LASERs, frequency multiplied YLF LASERs.

13. (Original) The method of claim 12, wherein the LASER is a pulsed Excimer LASER.

14. (Currently Amended) A device for fabricating a pore array, comprising:
a means for directing light onto a sheet of material and forming a pore array therein, the pore array comprising a plurality of pores, said means including a light source associated with a beam splitter;

a means for simultaneously detecting light passing through the plurality of pores of the pore array as the pores are formed;

a means for analyzing the detected light to determine if the pores meet a criteria; and

a means for continuously repositioning sheets relative to the means for directing light.

15. (Canceled)

16. (Original) The device of claim 14, wherein the means for analyzing detected light comprises a microprocessor.

17. (Original) The device of claim 14, wherein the beam splitter is selected from the group consisting of a mask and lens combination and a diffractive optic element.

18. (Original) The device of claim 14, wherein the means for detecting light is selected from the group consisting of a photodiode, a pyroelectric detector and a downconversion/photodiode detector.

19. (Original) The device of claim 14, wherein the means for continuously repositioning comprises a means for serially moving one sheet after another.

20. (Currently Amended) A method of simultaneously manufacturing and inspecting a pore, comprising:

directing light energy onto a plurality of locations on a surface of a sheet material in an amount sufficient to simultaneously create a plurality of pores ~~at least one pore~~ in the material;

detecting light passing through the plurality of pores in the sheet material opposite the surface at which the light energy is directed; and

analyzing the detected light to determine at least one criterion of at least one pore of the plurality of pores ~~at least one pore~~.

21. (Original) The method of claim 20, wherein the at least one criterion is selected from the group consisting of pore size and pore shape.

22. (Currently Amended) The method of claim 21, further comprising discontinuing the ~~direction of light at the at least one location~~ directing of light energy onto a plurality of locations when the at least one pore achieves a predetermined size.

23. (Original) The method of claim 22, wherein the at least one pore comprises a plurality of pores, and the predetermined size is the average size of at least some of the pores

24. (Canceled)

25. (Canceled)

26. (Original) The method of claim 20, wherein the light is directed at the plurality of locations and the analyzing is carried out to determine at least one of the criteria selected from the group consisting of whether the pores have been made through the sheet material, whether the pores made have a sufficient size, and whether the pores made provide a sufficient pore density.

27. (Original) The method of claim 26, further comprising discontinuing the directing of light when the analysis determines that the at least one criteria has been met.

28. (Original) The method of claim 20, wherein the light energy is LASER light.

29. (Original) The method of claim 28, wherein the LASER light is selected from the group consisting of Excimer LASERs, frequency multiplied YAG LASERs, and frequency multiplied YLF LASERs.

30. – 40. (Canceled)

41. (Original) A method for the fabrication of an array of pores, comprising:
directing light from a light source of appropriate wavelength to fabricate the array of pores in a sheet;
detecting the light transmitted through the pores wherein the detected light demonstrates the number of the pores; and
stopping the directing of light when the transmitted light demonstrates that the pores are of the correct number.

42. (Original) A method of simultaneously manufacturing and inspecting a plurality of pores, comprising:
directing light energy on a surface of a material in an amount sufficient to create the plurality of pores in the material;

detecting light passing through the plurality of pores opposite the surface at which the light energy is directed; and

analyzing the detected light to determine at least one criterion of the plurality of pores being formed.

43. (Original) The method of claim 42, wherein the analyzing comprises determining the collective average size of a number of pores at the same time.

44. (Original) The method of claim 43, further comprising discontinuing directing light at the location corresponding to where the multiplicity of pores having a predetermined collective average size is determined, by analysis, to have been formed.

45. (Original) The method of claim 42, wherein the at least one of criterion is selected from the group consisting of whether the plurality of pores have been formed through the material; whether the plurality of pores formed have a sufficient size; and whether the plurality of pores formed provide a sufficient pore density.

46. (Original) The method of claim 42, further comprising discontinuing the direction of light when the analysis determines that the at least one criterion has been met.

47. (Original) The method of claim 42, wherein the light is a LASER.

48. – 55. (Canceled)